

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Michael Jude Iosue

Application No.: 10/765,538

Group No.: 2879

Confirmation No.: 1649

Filed: January 27, 2004

Examiner: Dalei Dong

For: NIGHT VIEWER ACCOMODATING MULTIPLE IMAGE TUBE TYPES

Commissioner for Patents  
Washington, D.C. 20231

ATTENTION: Board of Patent Appeals and Interferences

**APPELLANT'S REPLY BRIEF**  
(37 C.F.R. § 41.41)

**Introduction**

Appellants submit this reply brief to the Examiner's Answer, mailed December 1, 2006, and in furtherance of the Notice of Appeal, filed in this case on June 26, 2006.

**ARGUMENTS**  
**REJECTIONS UNDER 35 U.S.C. § 102**

The Examiner's Answer in this Appeal repeats the prior arguments that Claims 16 and 19 are anticipated by *Wheeler*. (US 5,493,111).

Applicant submits that a reasonable interpretation of the cited reference, *Wheeler*, would not have resulted or made obvious the invention recited in the Appellant's claims. Applicant respectfully submits further that *Wheeler* in combination with *de Groot* fails to suggest or teach each element or limitation as claimed by Applicant in Claims 17 and 18 such that it would be obvious to one of ordinary skill in the art to which the invention pertains.

**Claim 16**

Claim 16 is the independent claim in this Appeal. For the purpose of brevity, Appellant will address comments in this Reply Brief to exemplary claim 16 only, but such comments should be considered applicable to all the claims on appeal since the dependent claims include the limitations of the independent claims and add additional limitations.

To repeat for the Board's convenience, Independent Claim 16 recites the following elements, the most pertinent to this discussion being presented in bold type for the convenience of the Board:

16. A method of making an image intensifier tube, said method including the steps of:
  - providing an annular tube body;
  - providing a microchannel plate disposed within said tube body;
  - providing an electrical contact structure between said tube body and said microchannel plate;
  - providing a yieldably deformable and axially-variable sealing structure** sealingly uniting the tube body with a window member, said window member carrying a photocathode; and

yielding said axially-variable sealing structure while maintaining a selected fine-dimension spacing between the photocathode and microchannel plate.

In essence, Applicant suggests that the arguments presented in the Examiner's Answer depart from the record and assume facts or interpretations that are not before the Board. Specifically, the Examiner's Answer states that the Examiner is permitted to interpret the term deformable as being able to "be accomplished by any method" (Examiner's Answer p. 5) when the common definition before the Board indicates that deformation implies pressure or stress (*see* Applicant's Appeal Brief, p. 12 and Applicant's Interview Summary filed 09/03/06).

The *unchallenged* evidence in the record before the Board is that the common definition of the "deformable" term requires that the shape of the subject item be altered "by pressure or stress." Therefore, the Examiner is adopting a definition for the "deformable" term that is unsupported by any evidence in the record.

The requirement that pressure or stress be used to cause the alteration therefore distinguishes the present invention from *Wheeler* in that *Wheeler* at most teaches only brazing that requires heat and consequently a change in the form of matter from the original solid form.

Thus, the common definition of the "deformable" term clearly contrasts with *Wheeler* that describes the seal 52 as a "braze flange member" (Col. 6, lines 30-31), or that "[f]lange member 52 is brazed onto the housing member 50," Col. 7, line 65 - Col. 8, line 1. Unlike deformation that is **defined** as being by stress or force as it particularly pertains to the physics of situations, to braze an item is defined as using "solder with a high melting point," as is clearly shown by the only definition of record. There is a functional difference between "yieldably deformable and axially-variable sealing structure sealingly uniting" two elements and brazing one element onto another, which act of brazing requires an additional application of heat and which brazed flange member 52 acts "both as an electrical connector member for the photocathode 18 and as a heat transfer member." (Col. 6, l. 29-35).

Moreover, the Examiner's Answer incorrectly alleges that "the definition describing contact pad 56' can not be applied to a sealing structure 58 of the Applicant's invention." (Examiner's Answer p. 7). As previously quoted in the Applicant's Appeal Brief, page 11, the

instant specification specifically explains the term “yieldably deformable” at page 13, lines 15-17:

Most preferably, the contact pads 56' and deformable portion of seal structure 58 both employ a yieldable, sealingly deformable and bondable seal material including indium metal. This seal material including indium metal **will allow the deformable contact pad structures 56' and deformable seal structure 58 both to, yield, cold flow and sealingly cold weld when the components of I<sup>2</sup>T 14 are assembled** [Emphasis added]

Therefore, Applicant explicitly teaches that **both** the deformable contact pad structure 56' and the deformable seal structure 58 are yieldably deformable.

When *Wheeler* is read in its entirety and considering the definitions of the brazing and deformable terms in this record, the providing of a yieldably deformable and axially-variable sealing structure sealingly uniting the tube body with a window member, and the window member carrying a photocathode, of the Applicant's invention as claimed is neither disclosed nor suggested by *Wheeler*, which citation merely discloses brazing a flange member 52 between the window member 16 and the base member 50.

Applicant suggests that the claimed structure underlying the method of the present invention is neither identical to nor disclosed by the *Wheeler* device. Therefore, *Wheeler* cannot anticipate the present claimed invention.

Moreover, the allegedly prior art device lacks the functional characteristics of the claimed structure of the method claim in the present application. The *Wheeler* device does not have the capability that the sealing flange structure yields and deforms to allow the window member 16 of the present invention to move axially toward the housing 44 of the present invention. The act of brazing a flange member to another tube part is a one time event. Once the brazing returns to a fully solidified state, there clearly is no residual “axially-variable sealing structure” as claimed in Claim 16. Therefore, the axial-variability structure inherent in Applicant's method claim is neither found nor taught in *Wheeler*.

Even if the *Wheeler* patent incidentally showed a similar arrangement of parts, if that arrangement is neither claimed nor designed to perform the function of the present invention, the *Wheeler* patent can not act as an anticipation.

## REJECTIONS UNDER 35 U.S.C. § 103

The Examiner's Answer in this Appeal further repeats the prior arguments that Claims 17 and 18 are unpatentable under 35 U.S.C. 103(a) over *Wheeler* in view of *de Groot*. (US 5,338,927) Claims 17 and 18 are both dependent claims and therefore include all the distinguishing limitations of the independent claim from which they depend.

The Patent Office has the initial burden of establishing a *prima facie* case of obviousness under 35 U.S.C. § 103(a) and must thus meet three criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the references or combine reference teachings. Second, there must be a reasonable expectation of success. Third, the applied art must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Appellants assert that the rejections do not satisfy these criteria.

In determining the propriety of a case for obviousness, it is necessary to ascertain whether the reference teaching(s) would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification. *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious *unless* the *prior art suggested* the desirability of the modifications to maintain the precise tolerances of a functional image intensifier tube. *In re Fritch*, 972 F.2d 1260, U.S.P.Q.2d 1780 (Fed. Cir. 1992). Here there is no reason or suggestion why a brazed flange member should be substituted with a yieldably deformable and axially-variable sealing structure.

Applicant's invention is directed toward providing an improved image intensifier tube having spacing between the photocathode and the MCP of the tube that is independent of tolerances or variabilities of the body of the tube. The combination of *Wheeler* with *de Groot* fails to teach or suggest the claim elements of Applicant's invention and do not suggest a solution to the variabilities of the tube body. Brazing a flange to a part of an image intensifier tube fails to provide the functional features and benefits of providing a yieldably deformable and

axially-variable sealing structure sealingly uniting the tube body with a window member carrying a photocathode as is found in Claim 16.

Regarding the beads 25 of *de Groot*, the Examiner once again leaps to an interpretation that is without support in the record before the Board. For example, on pages 8-9 of the Examiner's Answer, the Examiner disagrees that *de Groot* "fails to teach or suggest beads 25 are formed integrally with the photocathode." The Examiner goes on to state that "it would have been obvious to one having ordinary skill in the art . . . to have made the fine-dimension spacing structure integral with the photocathode." This is contrary to and ignores the specific teaching of *de Groot*.

*de Groot* teaches that the shims 25 are "glass beads." (Col. 4, l. 58-59) If the beads 25 are "fixedly joined," *de Groot* specifically **teaches away** from the beads 25 being fixed to the operable photocathode as in Applicant's invention. Rather,

- (a) the beads 25 may be "**fixedly joined** to the input face 8 of the slab 7 of microchannels by bonding" (Col. 5, l. 63 to Col 6, l. 3);
- (b) "[t]he beads or shims 25 are distributed and **fixed** to the input face 8 in a pitch p" (Col 5, l. 4-5); or
- (c) "[s]ince the beads 25 are **fixedly joined** to the slab 7" (Col. 6, l. 18).  
*[Emphasis Added]*

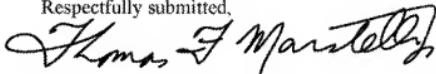
Thus, the only suggestion or teaching is that the spacer elements might be fixed to the microchannel plate (MCP), not the photocathode. The Examiner ignores the clear teaching of the reference away from the invention as claimed by the Applicant.

Further dependent Claims 17 and 18 that depend from independent Claim 16 are also not made obvious by Wheeler in view of *de Groot* because they include the limitations of Claim 16 and add additional elements that further distinguish the art. Therefore, Applicant respectfully requests that Claims 16-19 be allowed.

### **Conclusion**

In conclusion, for the above reasons Applicant respectfully requests the Board of Patent Appeals and Interferences to reverse the rejection of claims 16-19 by the Examiner. The application should be returned to the Examiner with directions to allow these claims and pass this application to issue.

Respectfully submitted,



Thomas F. Marsteller, Jr.  
Registration No. 29,672

Marsteller & Associates, P.C.  
PO Box 803302  
Dallas, TX 75380-3302  
(972) 233-0939  
(972) 386-3907 (Fax)

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